

File 348:EUROPEAN PATENTS 1978-2003/Apr W01

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File 349:PCT FULLTEXT 1979-2002/UB=20030417, UT=20030410

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Set	Items	Description
S1	11244	(RENDER? OR CREAT? OR GENERAT? OR COMPOS?) (5N)GRAPHIC?
S2	454	(POLYGON? OR TRIANGLE?) (5N)MESH?
S3	8705	(SILHOUETTE OR SHARP OR DISCONTINUITY?) (5N)EDGES
S4	8	(DELET? OR OMITTING OR EDIT?) (5N)CONCAVE
S5	112	(DETECT? OR FIND? OR LOCAT? OR SORT OR SORTING) (3N)S3
S6	379	OVERDRAW? OR OVER()DRAW?
S7	80	(ANTIALIAS? OR ANTI-ALIAS?) (5N)IMAGE?
S8	0	CRAWLING()JAGGIES
S9	3091	(BLEND? OR SHADING OR SMOOTH?) (5N)EDGES
S10	255	AU=(SANDER, P? OR SANDER P? OR HOPPE H? OR HOPPE, H? OR SN-YDER, J? OR SNYDER J? OR GORTLER S? OR GORTLER, S?)
S11	10210	IC=(G06T? OR G06G?)
S12	0	S1(S)S2(S)S3(S)S4
S13	0	S1(S)S2(S)S3
S14	33	S1(S)S2
S15	0	S14(S)S6
S16	1	S14(S)(S7 OR S9)
S17	0	S2(S)S6
S18	0	S3(S)S6
S19	6	S2 AND S10
S20	0	S19 NOT S14
S21	32	S14 NOT S16
S22	1	S14(S)SILHOUETTE
S23	1	S22 NOT (S16 OR S19)

16/3,K/1 (Item 1 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00566667 **Image available**

**ADVANCED DEFERRED SHADING GRAPHICS PIPELINE PROCESSOR
PROCESSEUR PIPELINE GRAPHIQUE EVOLUE A OMBRAGE DIFFERE**

Patent Applicant/Assignee:

APPLE COMPUTER INC, 1 Infinite Loop, Cupertino, CA 95014-2084, US, US
(Residence), US (Nationality)

Inventor(s):

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DODGEN Steven L, 15735 Forest Hill Drive, Boulder Creek, CA 95006, US,
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HONG Bor-Shyue, 2325 Oak Flat Road, San Jose, CA 95131, US,
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RASHID Abbas, 34369 Eucalyptus Terrace, Fremont, CA 94555-1982, US,
TSAY Albert Suan-Wei, 38129 Cambridge Court, Fremont, CA 94536, US,

Legal Representative:

ANANIAN R Michael (et al) (agent), Flehr Hohbach Test Albritton & Herbert
LLP, Suite 3400, 4 Embarcadero Center, San Francisco, CA 94111-4187, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200030040 A1 20000525 (WO 0030040)

Application: WO 99US18971 19990820 (PCT/WO US9918971)

Priority Application: US 9897336 19980820; US 98213990 19981217

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE
ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT
LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT
UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 180456

Fulltext Availability:

Detailed Description

Detailed Description

... 13, which has four primitives (primitives A, B, C, and D) for a

particular sample, **rendered** in the following order (starting with a depth clear and with depth test set to...computed for the CHSR process are the same as those computer in the z-buffered blend (i.e., the Pixel Block) because inconsistencies 1 0 could cause rendering errors.

In the...

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21/3,K/1 (Item 1 from file: 348)
DIALOG(R) File 348:EUROPEAN PATENTS
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01450611

System and method for modeling graphics objects
System und Verfahren zur Modellierung von Graphikobjekten
Système et procédé de modélisation d'objets graphiques

PATENT ASSIGNEE:

MITSUBISHI DENKI KABUSHIKI KAISHA, (208589), 2-3, Marunouchi 2-chome,
Chiyoda-ku, Tokyo 100-8310, (JP), (Applicant designated States: all)

INVENTOR:

Perry, Ronald N., 28 Maple Ave., Apt. 1, Cambridge, MA 02139, (US)
Friskin, Sarah F., 28 Maple Ave., Apt. 1, Cambridge, MA 02139, (US)
Pope, Jackson W.J., 15 Russell Road, Westbury Park, Bristol BS6 7UB, (GB)

LEGAL REPRESENTATIVE:

Pfenning, Meinig & Partner GbR (100967), Mozartstrasse 17, 80336 Munchen,
(DE)

PATENT (CC, No, Kind, Date): EP 1241627 A2 - 020918 (Basic)

APPLICATION (CC, No, Date): EP 2002005902 020314;

PRIORITY (CC, No, Date): US 811010 010316

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
LU; MC; NL; PT; SE; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: G06T-017/00; G06T-017/20

ABSTRACT WORD COUNT: 62

NOTE:

Figure number on first page: 1

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200238	1468
SPEC A	(English)	200238	5250
Total word count - document A			6718
Total word count - document B			0
Total word count - documents A + B			6718

...SPECIFICATION methods.

Vertex clustering, as described by Rossignac et al. in
"Multi-resolution 3D approximations for rendering complex scenes,"
Modeling in Computer Graphics : Methods and Applications, pp. 455-465,
1993, is one decimation method that quickly simplifies mesh...

...formed by replacing each vertex in the original mesh with its cluster in
the new mesh. Degenerate triangles are removed where two or more of
the vertices of an input triangle map to...

...especially when the final number of polygons is much smaller compared to
the number of polygons in the input mesh. An additional disadvantage
of the vertex clustering method is that the entire decimation process
must...

21/3,K/2 (Item 2 from file: 348)
DIALOG(R) File 348:EUROPEAN PATENTS
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01450601

Modeling and combining multiple graphics objects
Modellieren und Verbinden mehrerer Grafikobjekte

Modelisation et combinaison de plusieurs objets graphiques

PATENT ASSIGNEE:

MITSUBISHI DENKI KABUSHIKI KAISHA, (208589), 2-3, Marunouchi 2-chome,
Chiyoda-ku, Tokyo 100-8310, (JP), (Applicant designated States: all)

INVENTOR:

Perry, Ronald N., 28 Maple Avenue, No. 1, Cambridge, MA 02139, (US)
Friskin, Sarah F., 28 Maple Avenue, No. 1, Cambridge, MA 02139, (US)

LEGAL REPRESENTATIVE:

Pfenning, Meinig & Partner GbR (100967), Mozartstrasse 17, 80336 Munchen,
(DE)

PATENT (CC, No, Kind, Date): EP 1241626 A2 020918 (Basic)

APPLICATION (CC, No, Date): EP 2002005866 020314;

PRIORITY (CC, No, Date): US 810977 010316

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
LU; MC; NL; PT; SE; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: G06T-017/00

ABSTRACT WORD COUNT: 93

NOTE:

Figure number on first page: 1

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200238	323
SPEC A	(English)	200238	5281
Total word count - document A			5604
Total word count - document B			0
Total word count - documents A + B			5604

...SPECIFICATION methods.

Vertex clustering, as described by Rossignac et al. in
"Multi-resolution 3D approximations for **rendering** complex scenes,"
Modeling in Computer **Graphics** : Methods and Applications, pp. 455-465,
1993, is one decimation method that quickly simplifies mesh...

...formed by replacing each vertex in the original mesh with its cluster in
the new **mesh**. Degenerate **triangles** are removed where two or more of
the vertices of an input triangle map to...

...especially when the final number of polygons is much smaller compared to
the number of **polygons** in the input **mesh**. An additional disadvantage
of the vertex clustering method is that the entire decimation process
must...

21/3,K/3 (Item 3 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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01450600

Modeling graphics objects with topological hints

Modellieren von Grafikobjekten mit topologischen Hinweisen

Modelisation d'objets graphiques avec indications topologiques

PATENT ASSIGNEE:

MITSUBISHI DENKI KABUSHIKI KAISHA, (208589), 2-3, Marunouchi 2-chome,
Chiyoda-ku, Tokyo 100-8310, (JP), (Applicant designated States: all)

INVENTOR:

Perry, Ronald N., 28 Maple Avenue, No. 1, Cambridge, MA 02139, (US)

Friskin, Sarah F., 28 Maple Avenue, No. 1, Cambridge, MA 02139, (US)

Pope, Jackson W.J., 15 Russell Road, Westbury Park, Bristol BS6 7UB, (GB)

LEGAL REPRESENTATIVE:

Pfenning, Meinig & Partner GbR (100967), Mozartstrasse 17, 80336 Munchen,
(DE)

PATENT (CC, No, Kind, Date): EP 1241625 A2 020918 (Basic)

APPLICATION (CC, No, Date): EP 2002005865 020314;

PRIORITY (CC, No, Date): US 810762 010316

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;

LU; MC; NL; PT; SE; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: G06T-017/00

ABSTRACT WORD COUNT: 113

NOTE:

Figure number on first page: 1

LANGUAGE (Publication, Procedural, Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200238	375
SPEC A	(English)	200238	5318
Total word count - document A			5693
Total word count - document B			0
Total word count - documents A + B			5693

...SPECIFICATION methods.

Vertex clustering, as described by Rossignac et al. in
"Multi-resolution 3D approximations for rendering complex scenes,"
Modeling in Computer Graphics : Methods and Applications, pp. 455-465,
1993, is one decimation method that quickly simplifies mesh...

...formed by replacing each vertex in the original mesh with its cluster in
the new mesh . Degenerate triangles are removed where two or more of
the vertices of an input triangle map to...

...especially when the final number of polygons is much smaller compared to
the number of polygons in the input mesh . An additional disadvantage
of the vertex clustering method is that the entire decimation process
must...

21/3,K/4 (Item 4 from file: 348)

DIALOG(R) File 348:EUROPEAN PATENTS

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00952558

PROCESS CONTROL

PROZESSSTEUERVORRICHTUNG

COMMANDE DE PROCEDE

PATENT ASSIGNEE:

Cyberlife Technology Limited, (2543640), Quern House, Mill Court, Great
Shelford, Cambridge CB2 5LD, (GB), (Proprietor designated states: all)

INVENTOR:

GRAND, Stephen, Lewis, The Old Station House Haybridge Wells, Somerset
BA5 1AQ, (GB)

LEGAL REPRESENTATIVE:

Robinson, Nigel Alexander Julian (69551), D. Young & Co., 21 New Fetter
Lane, London EC4A 1DA, (GB)

PATENT (CC, No, Kind, Date): EP 937286 A1 990825 (Basic)
EP 937286 B1 020327
WO 9820418 980514

APPLICATION (CC, No, Date): EP 96935171 961105; WO 96GB2703 961105

DESIGNATED STATES: DE; FI; FR; GB; IE; IT; NL; SE

INTERNATIONAL PATENT CLASS: G06F-009/46

NOTE:

No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200213	1108
CLAIMS B	(German)	200213	974
CLAIMS B	(French)	200213	1316
SPEC B	(English)	200213	17766
Total word count - document A			0
Total word count - document B			21164
Total word count - documents A + B			21164

...SPECIFICATION Often the system will be used in both modes.

The output from the system is **rendered**, textured 3D **graphics** and stereo sound. Each object in the simulation can have its own 3D **polygon mesh**, and thus complex objects can be constructed from several articulated or otherwise connected parts, each...three-dimensional graphics. Each cell can optionally contain graphical and geographical information, and thus be **rendered** to the screen. The **graphical** information is in the form of a textured **polygon mesh** (possibly two separate **meshes**, if the object needs to be visible from both inside and outside).

Each polygon may...

21/3,K/5 (Item 5 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00856424

Selective refinement of meshes
Selektive Verfeinerung der Maschen
Affinement selectif de mailles

PATENT ASSIGNEE:

MICROSOFT CORPORATION, (749861), One Microsoft Way, Redmond, Washington 98052-6399, (US), (Applicant designated States: all)

INVENTOR:

Hoppe Hughes H., 506 E. Howell, Apt. 401, Seattle, Washington 98122, (US)

LEGAL REPRESENTATIVE:

Meddle, Alan Leonard et al (33761), FORRESTER & BOEHMERT
Franz-Joseph-Strasse 38, 80801 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 789330 A2 970813 (Basic)
EP 789330 A3 991103

APPLICATION (CC, No, Date): EP 97100141 970107;

PRIORITY (CC, No, Date): US 586953 960111

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06T-017/20

ABSTRACT WORD COUNT: 158

NOTE:

Figure number on first page: 8

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9708W2	1044
SPEC A	(English)	9708W2	16362
Total word count - document A			17406
Total word count - document B			0
Total word count - documents A + B			17406

...SPECIFICATION See, T. Sederberg and S. Parry, Free-form Deformation of Solid Geometric Models, 1986 Computer Graphics Proceedings (FFD); Rockwood, Real-time Rendering of Trimmed Surfaces, 1989 Computer Graphics Proceedings (NURBS); and J. Blinn, A Generalization of Algebraic Surface Drawing, 1982 ACM Transactions on...

...1(3)235-256 (Bobbies).) For display purposes, these authored models are usually tessellated into triangle meshes of the type previously described. Detailed models can also be rapidly obtained by scanning physical...

21/3,K/6 (Item 6 from file: 348)
DIALOG(R) File 348:EUROPEAN PATENTS
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00856423

Meshes with variable resolution
Maschen mit veranderbarer Auflösung
Mailles a resolution variable

PATENT ASSIGNEE:

MICROSOFT CORPORATION, (749861), One Microsoft Way, Redmond, Washington 98052-6399, (US), (Applicant designated States: all)

INVENTOR:

Hoppe, Hugues H., Apt. 401, 506 E. Howell, Seattle, Washington 98122, (US)

LEGAL REPRESENTATIVE:

Meddle, Alan Leonard et al (33761), FORRESTER & BOEHMERT
Franz-Joseph-Strasse 38, 80801 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 789329 A2 970813 (Basic)
EP 789329 A3 991103

APPLICATION (CC, No, Date): EP 97100126 970107;

PRIORITY (CC, No, Date): US 586953 960111

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06T-017/20

ABSTRACT WORD COUNT: 158

NOTE:

Figure number on first page: 8

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9708W2	1553
SPEC A	(English)	9708W2	16361
Total word count - document A			17914
Total word count - document B			0
Total word count - documents A + B			17914

...SPECIFICATION See, T. Sederberg and S. Parry, Free-form Deformation of Solid Geometric Models, 1986 Computer Graphics Proceedings (FFD); Rockwood, Real-time Rendering of Trimmed Surfaces, 1989 Computer Graphics Proceedings (NURBS); and J. Blinn, A Generalization of Algebraic Surface Drawing, 1982 ACM Transactions on...

...1(3)235-256 (Bobbies).) For display purposes, these authored models are usually tessellated into triangle meshes of the type previously described. Detailed models can also be rapidly obtained by scanning physical...

21/3,K/7 (Item 7 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00854741
Encoding and transmission of meshes
Maschenubertragung und -kodierung
Codage et transmission de mailles
PATENT ASSIGNEE:
MICROSOFT CORPORATION, (749861), One Microsoft Way, Redmond, Washington 98052-6399, (US), (Applicant designated States: all)

INVENTOR:
Hoppe, Hugues H., 506 E. Howell, Apt. 401, Seattle, Washington 98122, (US)

LEGAL REPRESENTATIVE:
Meddle, Alan Leonard et al (33761), FORRESTER & BOEHMERT
Franz-Joseph-Strasse 38, 80801 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 788072 A2 970806 (Basic)
EP 788072 A3 991103

APPLICATION (CC, No, Date): EP 97100140 970107;

PRIORITY (CC, No, Date): US 586953 960111

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06T-017/20

ABSTRACT WORD COUNT: 158

NOTE:

Figure number on first page: 8

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9708W1	2452
SPEC A	(English)	9708W1	16366
Total word count - document A			18818
Total word count - document B			0
Total word count - documents A + B			18818

...SPECIFICATION See, T. Sederberg and S. Parry, Free-form Deformation of Solid Geometric Models, 1986 Computer Graphics Proceedings (FFD); Rockwood, Real-time Rendering of Trimmed Surfaces, 1989 Computer Graphics Proceedings (NURBS); and J. Blinn, A Generalization of Algebraic Surface Drawing, 1982 ACM Transactions on...

...1(3)235-256 (Bobbies.) For display purposes, these authored models are usually tessellated into triangle meshes of the type previously described. Detailed models can also be rapidly obtained by scanning physical...

21/3,K/8 (Item 8 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00850266
Mesh simplification and construction of meshes
Maschenvereinfachung und Konstruktion von Maschen
Simplification de mailles et construction de mailles
PATENT ASSIGNEE:
MICROSOFT CORPORATION, (749861), One Microsoft Way, Redmond, Washington 98052-6399, (US), (Applicant designated States: all)

INVENTOR:

Hoppe Hughes H., 506 E. Howell, Apt. 401, Seattle, Washington 98122, (US)
LEGAL REPRESENTATIVE:

Meddle, Alan Leonard et al (33761), FORRESTER & BOEHMERT
Franz-Joseph-Strasse 38, 80801 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 784295 A2 970716 (Basic)
EP 784295 A3 991103

APPLICATION (CC, No, Date): EP 97100127 970107;

PRIORITY (CC, No, Date): US 586953 960111

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06T-017/20

NOTE:

Figure number on first page: 8

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB97	990
SPEC A	(English)	EPAB97	16361
Total word count - document A			17351
Total word count - document B			0
Total word count - documents A + B			17351

...SPECIFICATION See, T. Sederberg and S. Parry, Free-form Deformation of Solid Geometric Models, 1986 Computer Graphics Proceedings (FFD); Rockwood, Real-time Rendering of Trimmed Surfaces, 1989 Computer Graphics Proceedings (NURBS); and J. Blinn, A Generalization of Algebraic Surface Drawing, 1982 ACM Transactions on...

...1(3)235-256 (Bobbies)..) For display purposes, these authored models are usually tessellated into triangle meshes of the type previously described. Detailed models can also be rapidly obtained by scanning physical...

21/3,K/9 (Item 1 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00961557 **Image available**

EFFICIENT IMAGE PARCEL TEXTURE RENDERING WITH T-JUNCTION CRACK ELIMINATION
RENDE EFFICACE DE TEXTURES DE PARCELLES D'IMAGES AVEC ELIMINATION DES
FISSURES DE JONCTIONS EN T

Patent Applicant/Assignee:

FLYOVER TECHNOLOGIES INC, R & D Center, 3 Nachal Besor St., 47204 Ramat Hasharon, IL, IL (Residence), IL (Nationality)

Inventor(s):

LEVANON Isaac, 3 Nachal Besor St., 47204 Ramat Hasharon, IL,
LAVI Yonathan, 21 Bar Ilan St., Raanana, IL,

Legal Representative:

SANFORD T COLB & CO (et al) (agent), P.O. Box 2273, 76122 Rehovot, IL,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200295687 A1 20021128 (WO 0295687)
Application: WO 2001IL1198 20011225 (PCT/WO IL0101198)
Priority Application: US 2000258465 20001227; US 2000258466 20001227; US 2000258467 20001227; US 2000258468 20001227; US 2000258488 20001227; US 2000258489 20001227

Designated States: AU BR BY CA CN CO DE EC IL IN JP KR MX NZ RU SG SI SK ZA
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

Publication Language: English

Filing Language: English

Fulltext Word Count: 7699

Fulltext Availability:
Detailed Description

Detailed Description
... the Invention
[00081 Field of the Invention.

[00091 The present invention is generally related to the graphical rendering of image data over surfaces defined by polygon meshes and, in particular, to a system and methods of efficiently regularizing a polygon mesh having multiple tessellation levels to support image parcel texture rendering without visual T-junction artifacts...

21/3,K/10 (Item 2 from file: 349)
DIALOG(R) File 349:PCT FULLTEXT
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00909145 **Image available**
PLANAR LASER ILLUMINATION AND IMAGING (PLIIM) SYSTEMS WITH INTEGRATED DESPECKLING MECHANISMS PROVIDED THEREIN
SYSTEMES PLIIM D'ILLUMINATION ET D'IMAGERIE AU LASER PLANAIRES A MECANISME DE DESPECKLING INTEGRÉ

Patent Applicant/Assignee:
METROLOGIC INSTRUMENTS INC, 90 Coles Road, Blackwood, NJ 08012, US, US
(Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
TSIKOS Constantine J, 65 Woodstone Drive, Voorhees, NJ 08043-4749, US, US
(Residence), US (Nationality), (Designated only for: US)
KNOWLES Carl Harry, 425 East Linden Street, Morristown, NJ 08057, US, US
(Residence), US (Nationality), (Designated only for: US)
ZHU Xiaoxun, 669 Barton Run Boulevard, Marlton, NJ 08053, US, US
(Residence), CN (Nationality), (Designated only for: US)
SCHNEE Michael D, 41 Penns Court, Aston, PA 19104, US, US (Residence),
US (Nationality), (Designated only for: US)
AU Ka Man, 1224 Devereaux Avenue, Philadelphia, PA 19111, US, US
(Residence), US (Nationality), (Designated only for: US)
WIRTH Allan, 358 Concord Road, Bedford, MA 01730, US, US (Residence), US
(Nationality), (Designated only for: US)
GOOD Timothy A, 2041 Broad Acres Drive, Clementon, NJ 08021, US, US
(Residence), US (Nationality), (Designated only for: US)
JANKEVICS Andrew J, 80R Carlisle Road, Westford, MA 01886, US, US
(Residence), US (Nationality), (Designated only for: US)
GHOSH Sankar, Apartment #B27, 100 W. Oak Lane, Glenolden, PA 19036, US,
US (Residence), US (Nationality), (Designated only for: US)
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Patent and Priority Information (Country, Number, Date):

Patent: WO 200243195 A2-A3 20020530 (WO 0243195)

Application: WO 2001US44011 20011121 (PCT/WO US0144011)

Priority Application: US 2000721885 20001124; US 2001780027 20010209; US
2001781665 20010212; US 2001883130 20010615; US 2001954477 20010917; US
2001999687 20011031

Parent Application/Grant:

Related by Continuation to: US 2001954477 20010917 (CIP)

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU
CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD
SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 298301

Fulltext Availability:

Claims

Claim

... carried out by the PLIIM-based system on a moving bar code symbol or
other

graphical structure;

Fig. 113 I is a schematic representation of the first illustrative embodiment of the...D space and the points of intersection between these pixel rays and a 3-D polygon - mesh model of the moving target object are computed, and these computed points of intersection used...the number of substantially different time-varying speckle-noise pattern samples which need to be generated per each photo-integration time interval of the image detection array can be experimentally determined...

21/3,K/11 (Item 3 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00827931 **Image available**

**LIVE PERFORMANCE CONTROL OF COMPUTER GRAPHIC CHARACTERS
COMMANDE EN DIRECT DE PERSONNAGES GRAPHIQUES INFORMATISES**

Patent Applicant/Assignee:

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200161447 A1 20010823 (WO 0161447)

Application: WO 2000US10065 20000413 (PCT/WO US0010065)

Priority Application: US 2000506679 20000217

Designated States: AU CA JP NZ

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Filing Language: English

Fulltext Word Count: 19245

Fulltext Availability:

Detailed Description

Detailed Description

... actuators inside of it, as does an electromechanically actuated
puppet.

Before a performance session, 3D graphics software 108B is used to
create and store information defining one or more characters that may
be performed by a puppeteer, as indicated by block 12 1. The characters
that puppeteers perform are composed of a computer graphic "mesh".
The character meshes may comprise polygonal meshes or spline curve
meshes. Typically 3D graphics software 108B will have two primary means
by which to move a...

21/3,K/12 (Item 4 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00820410 **Image available**

**SYSTEM AND METHOD FOR DELIVERING RICH MEDIA CONTENT OVER A NETWORK
SYSTEME ET PROCEDE PERMETTANT DE DELIVRER UN CONTENU RICHE EN INFORMATIONS
MULTIMEDIA VIA UN RESEAU**

Patent Applicant/Assignee:

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Legal Representative:

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200153962 A1 20010726 (WO 0153962)

Application: WO 2001US2224 20010122 (PCT/WO US0102224)

Priority Application: US 2000177394 20000121; US 2000177395 20000121; US 2000177396 20000121; US 2000177397 20000121; US 2000177398 20000121; US 2000177399 20000121; US 2000182434 20000215; US 2000204386 20000515

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

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Fulltext Word Count: 22916

Fulltext Availability:

Detailed Description

Detailed Description

... The model may be based on recorded video of an actual set or may be generated completely based upon computer generated graphical objects. In some embodiments, the virtual set generator includes a 3D renderer. 3D Rendering is...transforms that determine where on a 2D plane a point in 3D space would project. Meshes of triangles in 3D space represent the surface of objects 5 in the 3D world. Using the...

21/3,K/13 (Item 5 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00815142 **Image available**
METHODS OF HIERARCHICAL STATIC SCENE SIMPLIFICATION AND POLYGON BUDGETING FOR 3D MODELS
PROCEDE DE SIMPLIFICATION DE SCENE STATIQUE HIERARCHIQUE ET GESTION DE POLYGONES DANS UN MODELE 3D

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Legal Representative:

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Patent and Priority Information (Country, Number, Date):
Patent: WO 200148697 A1 20010705 (WO 0148697)
Application: WO 99CN218 19991223 (PCT/WO CN9900218)
Priority Application: WO 99CN218 19991223
Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE
ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT
LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT
UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 8517

Fulltext Availability:
Detailed Description

Detailed Description

... entertainment. Since recent general purpose graphics WO 01/48697
PCT/CN99/00218

2

cases, a **graphics** subsystem cannot **render** a scene having many
complicated objects in real-time. A graphics subsystem may attempt to...

...can be displayed more quickly. For example, if an object is initially
represented by a **mesh** having 10,000 **polygons**, it may be simplified by
methods known in the art to a representation of the...referring to the
same embodiment.

An embodiment of the present invention operates within a 3D **graphics**
io application, which **creates** and manages a scene graph stored in a
graphical database. A scene graph is a...

...3D objects
present in a scene. The scene graph may comprise multiple complex, highly
detailed **polygonal** surfaces or **meshes** arranged in a hierarchical
manner. Figure 1 is a diagram of a sample scene graph...

...an embodiment of the present invention. In this example, scene graph 1 0
comprises three **polygonal** **meshes** : M0 12, M1 14, and M2 16, arranged
in a hierarchy as
shown. Although this...

21/3,K/14 (Item 6 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00813280 **Image available**
ITERATIVE DETERMINATION OF THE SHORTEST PATH BETWEEN TWO POINTS ON A
POLYGONAL SURFACE
DETERMINATION ITERATIVE DU PLUS COURT CHEMIN ENTRE DEUX POINTS SUR UNE
SURFACE POLYGONALE

Patent Applicant/Assignee:

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Legal Representative:

CHASKIN Jay L (et al) (agent), General Electric Company, 3135 Easton
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Patent and Priority Information (Country, Number, Date):

Patent: WO 200146912 A1 20010628 (WO 0146912)
Application: WO 2000US33573 20001212 (PCT/WO US0033573)

Priority Application: US 99469750 19991222

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Publication Language: English

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Fulltext Word Count: 5769

Fulltext Availability:

Detailed Description

Detailed Description

... object mass, volume, surface area, center of gravity, and moments of inertia.

In the past, **polygonal meshes** were typically comprised of hundreds to thousands of polygons, and computer hardware and software has...capturing the geometry of the object very precisely, often overwhelm computer systems. For example, most **graphics** systems presently are incapable of **rendering** a million polygons at a speed that is not detrimental to interactive computation.

The basic...

21/3, K/15 (Item 7 from file: 349)
DIALOG(R) File 349:PCT FULLTEXT
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00767723 **Image available**
METHOD AND APPARATUS FOR THE GENERATION OF COMPUTER GRAPHIC REPRESENTATIONS OF INDIVIDUALS
PROCEDE ET APPAREIL PERMETTANT DE GENERER DES REPRESENTATIONS GRAPHIQUES D'INDIVIDUS PAR ORDINATEUR

Patent Applicant/Inventor:

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Legal Representative:

BERESFORD Keith Denis Lewis, Beresford & Co., 2-5 Warwick Court, High Holborn, London WC1R 5DJ, GB

Patent and Priority Information (Country, Number, Date):

Patent: WO 200101354 A1 20010104 (WO 0101354)
Application: WO 2000GB2458 20000626 (PCT/WO GB0002458)

Priority Application: GB 9914823 19990624

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

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Fulltext Word Count: 45335

Fulltext Availability:
Claims

Claim

amendments.

METHOD AND APPARATUS FOR THE GENERATION
OF COMPUTER GRAPHIC REPRESENTATIONS OF INDIVIDUALS
FIELD OF THE INVENTION

The present invention concerns methods and apparatus
for generating computer graphical representations of
individuals. In particular, the present invention
concerns the generation of texture rendered wire...

...means by which
computer models of individuals can be generated which may
be used to generate computer graphical representations of
individuals in different poses.
Embodiments of the present invention provide means
by which animated sequences of computer graphical images
can be generated which are indicative of the movement of
an individual between a number of different poses...self-test program;
Figure 16 is a flow diagram illustrating the steps
involved in the generation of a computer graphical
representation of an individual in accordance with the
first embodiment of the present invention;
Figure...

...Figure 18 is a flow diagram of the steps involved in
obtaining image data for generating a computer graphical
representation using the booth of Figure 2;
Figure 19 is a graph illustrating the timing...

...stored in memory;
Figure 36 is a representation of the data structure
for a generic polygon wire mesh for a generic model
avatar;
Figure 37 is an illustrative representation of a
polygonal wire mesh of a generic model avatar;
Figure 38 is a pair of illustrations showing the
deformation...has been described arranged to utilise the
avatar data generated by the booth I to generate computer
graphical representations of individuals in any of a
plurality of poses. In this embodiment the avatar...varying
levels of details for use in different applications, Thus
for example avatars having a polygonal mesh of 2600
polygons could be generated for use in some software with
a polygonal mesh of 10,000 or 40,000 polygons being used
for other applications, The model. avatar...

21/3,K/16 (Item 8 from file: 349)
DIALOG(R) File 349:PCT FULLTEXT
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00740874 **Image available**
DEVICE, METHOD, AND SYSTEM FOR GENERATING PER-PIXEL LIGHT VALUES USING
TEXTURE PARAMETERS
DISPOSITIF, PROCEDE ET SYSTEME PERMETTANT DE GENERER DES VALEURS DE

LUMINOSITE PAR PIXEL AU MOYEN DE PARAMETRES DE TEXTURE

Patent Applicant/Assignee:

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BLYTHE David, 3314 Brittan Avenue #2, San Carlos, CA 94070, US
AIREY John Milligan, 340 Vincent Drive, Mountainview, CA 94041, US

Legal Representative:

FISH Charles S, Baker Botts L.L.P., 2001 Ross Avenue, Dallas, TX
75201-2980, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200054225 A1 20000914 (WO 0054225)
Application: WO 2000US6184 20000308 (PCT/WO US0006184)
Priority Application: US 99265493 19990309

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Publication Language: English

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Fulltext Word Count: 6987

Fulltext Availability:

Detailed Description

Detailed Description

... images (e.g., two- or three dimensional images) is one of the main goals of **graphics** system designers. **Rendering** images of real or imaginary objects typically involves generating geometric models (e.g., polygons) of...

...to polygonal surfaces. In computer graphics, surfaces of an object are generally modeled by a **polygonal mesh**, which is a collection of vertices, edges, and/or **polygons**. A **mesh** of **polygons** may be produced from a variety of sources such as an application, tessellated NURBS...

21/3,K/17 (Item 9 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00733766 **Image available**

METHOD AND APPARATUS FOR 3D MODEL CREATION BASED ON 2D IMAGES
PROCEDE ET APPAREIL DE CREATION DE MODELES 3D SUR LA BASE D'IMAGES 2D
Patent Applicant/Assignee:

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Legal Representative:

LEEDS Kenneth, P.O. Box 2819, Sunnyvale, CA 94087-0819, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200046753 A1 20000810 (WO 0046753)
Application: WO 2000US2786 20000202 (PCT/WO US0002786)
Priority Application: US 99118508 19990203; US 99361470 19990727
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Publication Language: English
Filing Language: English
Fulltext Word Count: 8995

Fulltext Availability:
Detailed Description

Detailed Description
... Windows.

in one embodiment, a user sets up the flat geometric surface (for example, a **triangle mesh**) in the Direct 3D windows environment. The set of instructions is then provided to the **graphics** pipeline, which finishes the **rendering** process. However, in another embodiment, the PC comprises a bypass mechanism that permits one to...control points in the Z direction in accordance with that change of color, the resulting **mesh** of **polygons** will more accurately match the object whose image is being **rendered**. If the 3D **graphics** pipeline is called upon to prepare an image of that object from a different angle, that...

21/3,K/18 (Item 10 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00731952 **Image available**
ADAPTIVE SUBDIVISION OF MESH MODELS
SUBDIVISION ADAPTATIVE DE MODELES A MAILLE
Patent Applicant/Assignee:

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, US, US (Residence), US (Nationality)

Inventor(s):

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Legal Representative:

FLOCK John (et al) (agent), Kenyon & Kenyon, One Broadway, New York, NY
10004, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200045283 A1 20000803 (WO 0045283)
Application: WO 2000US2176 20000127 (PCT/WO US0002176)
Priority Application: US 99238232 19990127

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DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW NO NZ PL PT RO RU SD SE SG SI SK SL TJ
TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English
Filing Language: English
Fulltext Word Count: 14782

Fulltext Availability:
Detailed Description

Detailed Description
... and sending the subdivided triangles (those triangles which will not
be further subdivided) to the **rendering** computer's **graphics** pipeline

one by one, immediately releasing memory after these triangles are rendered. (Alternatively, infon-nation...).

...until the triangle adjacent to it have been subdivided. For example, Fig. 5 shows four triangles 60-63 of a mesh model that has yet to be subdivided (i.e. there are 10 one base mesh triangles). In Fig. 5 the first triangle to be subdivided is triangle 60. Based on the...

21/3,K/19 (Item 11 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00538791 **Image available**
COMPUTER GRAPHICS ANIMATION METHOD AND DEVICE
PROCEDE ET DISPOSITIF D'ANIMATION INFOGRAPHIQUE
Patent Applicant/Assignee:
KONINKLIJKE PHILIPS ELECTRONICS N V,
PHILIPS AB,
Inventor(s):
BRUIJNS Johannes,
VAN OVERVELD Cornelis W A M,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200002164 A2 20000113 (WO 0002164)
Application: WO 99IB1137 19990617 (PCT/WO IB9901137)
Priority Application: EP 98202214 19980701
Designated States: CN JP KR AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 4075

Fulltext Availability:

Claims
Claim
... from the first and second mesh of control points comerpoints of a first and second mesh of flat triangles respectively, the first and second mesh of flat triangles approximating the surfaces defined by the first and second coordinate valued functions respectively, surfaces defined by said mesh of flat triangles being rendered .

3 A computer graphics animation method according to Claim 2, wherein viewing transformations are applied to the first and...

21/3,K/20 (Item 12 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00533609 **Image available**
METHOD AND SYSTEM FOR CAPTURING AND REPRESENTING 3D GEOMETRY, COLOR AND SHADING OF FACIAL EXPRESSIONS
PROCEDE ET SYSTEME DE CAPTURE ET DE REPRESENTATION DE GEOMETRIE 3D, COULEUR ET CONTRASTE D'EXPRESSIONS FACIALES
Patent Applicant/Assignee:
MICROSOFT CORPORATION,
Inventor(s):
GUENTER Brian,
GRIMM Cindy Marie,
MALVAR Henrique Sarmento,
Patent and Priority Information (Country, Number, Date):

Patent: WO 9964961 A1 19991216
Application: WO 99US12725 19990607 (PCT/WO US9912725)
Priority Application: US 9893590 19980608
Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE
ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT
LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT
UA UG UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU
TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG
CI CM GA GN GW ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 17984

Fulltext Availability:
Detailed Description

Detailed Description

... actor's face was digitized using a Cyberware scanner, a conventional system used in 3D **graphics** for generating a 3D model of a 3D object. This scan was used to create the base...

...the positions of the tracked dots. In this particular case, the 3D model was a **polygonal mesh** comprising an array of vertices, each specified in terms of coordinates in a 3D coordinate...rendering pipeline by converting pixel intensity values to analog signals scanned across the display. Some **graphics** workstations include additional **rendering** devices such as a **graphics** - 41 accelerator that plugs into an expansion slot on the computer or a **graphics rendering** chip set that is connected to the processor and memory via the bus structure on the mother board. Such **graphics rendering** hardware accelerates image **generation**, typically by using special purpose hardware to scan convert geometric primitives such as the **polygons** of the base **mesh**. The computer 320 may operate in a networked environment using logical connections to one or...

21/3,K/21 (Item 13 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00514150 **Image available**
SUBSAMPLED TEXTURE EDGE ANTIALIASING
ANTICRENELAGE DES CONTOURS DE TEXTURES SOUS-ECHANTILLONNEES

Patent Applicant/Assignee:

SILICON GRAPHICS INC,

Inventor(s):

VAN HOOK Timothy,
DELAURIER Anthony,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9945502 A1 19990910
Application: WO 99US3816 19990223 (PCT/WO US9903816)
Priority Application: US 9835376 19980305

Designated States: JP AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Fulltext Word Count: 5798

Fulltext Availability:
Detailed Description

Detailed Description
... the computer **graphics**

system 100 to render antialiased texture edges within a polygon for display.

Rendering realistic images in a 3D graphics computer system necessitates modeling of surfaces. A common surface modeling method is the **Polygon mesh** technique. A **Polygon mesh** is a collection of edges, vertices, and polygons connected such that each edge is shared...

21/3,K/22 (Item 14 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00507956 **Image available**

3D MESH COMPRESSION AND CODING

COMPRESSION ET CODAGE DE RESEAU MAILLE TRIDIMENSIONNEL

Patent Applicant/Assignee:

LI Jiānkun,

KUO Chung-Chieh Jay,

Inventor(s):

LI Jiankun,

KUO Chung-Chieh Jay,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9939308 A1 19990805

Application: WO 99US1846 19990129 (PCT/WO US9901846)

Priority Application: US 9873087 19980130; US 98127053 19980731

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

Publication Language: English

Fulltext Word Count: 9658

Fulltext Availability:

Detailed Description

Detailed Description

... is also O(n) as discussed in Bar-Yehuda et al., "Time/Space Tradeoffs for **Polygon Mesh Rendering**," ACM Transactions on **Graphics**, Vol. 15, pp. 141-52, April 1996, and in Heekbert et al., "Multiresolution Modeling for Fast **Rendering**," Proceedings of **Graphics Interface '94**, pp. 43-50, Canadian Information Processing Society, May 1994. The disclosure of...

21/3,K/23 (Item 15 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00475610 **Image available**

REALISTIC SURFACE SIMULATION IN COMPUTER ANIMATION

SIMULATION REALISTE DE SURFACE EN ANIMATION INFORMATIQUE

Patent Applicant/Assignee:

PIXAR ANIMATION STUDIOS,

Inventor(s):

DEROSE Anthony David,

KASS Michael,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9906962 A1 19990211

Application: WO 98US15702 19980729 (PCT/WO US9815702)

Priority Application: US 97905436 19970804

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES
FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD
MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ
VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH
CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW
ML MR NE SN TD TG

Publication Language: English

Fulltext Word Count: 8661

Fulltext Availability:

Detailed Description

Detailed Description

... No. 08/905,435, filed August 4,
1997 and titled: "HYBRID SUBDIVISION IN COMPUTER GRAPHICS".

BACKGROUND OF THE INVENTION

To **create** a three dimensional computer animation, the animator must move three dimensional objects and characters about...

...point mesh contains sufficient information to recreate the model using either B-Spline patches, a **polygon mesh**, or recursive subdivision surfaces, in sufficient detail to produce a high quality rendered image.

In...

21/3,K/24 (Item 16 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00475606 **Image available**

TEXTURE MAPPING AND OTHER USES OF SCALAR FIELDS ON SUBDIVISION SURFACES IN COMPUTER GRAPHICS AND ANIMATION

TEXTURAGE ET AUTRES UTILISATIONS DE CHAMPS SCALAIRES SUR DES SURFACES DE SUBDIVISION DANS DES GRAPHIQUES ET DES ANIMATIONS INFORMATIQUES

Patent Applicant/Assignee:

PIXAR ANIMATION STUDIOS,

Inventor(s):

DeROSE Anthony David,

KASS Michael,

TRUONG Tien Gia,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9906958 A1 19990211

Application: WO 98US15703 19980729 (PCT/WO US9815703)

Priority Application: US 97905434 19970804

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES
FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD
MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ
VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH
CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW
ML MR NE SN TD TG

Publication Language: English

Fulltext Word Count: 8299

Fulltext Availability:

Detailed Description

Detailed Description

... smooth surfaces of arbitrary topology, subdivision surfaces have not been widely adopted in CAD, computer **graphics** or computer generated animation. One reason that they have not been more widely embraced is that unlike NURB... computer graphics and animation for a way to define smoothly varying scalar fields on arbitrary **polygonal meshes** and surfaces defined by their subdivision which can serve as local surface parameters.

SUMMARY OF...

21/3,K/25 (Item 17 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00466836 **Image available**
COMPUTER GRAPHICS METHOD AND DEVICE
PROCEDE ET DISPOSITIF D'INFOGRAPHIE

Patent Applicant/Assignee:

KONINKLIJKE PHILIPS ELECTRONICS N V,
PHILIPS AB,

Inventor(s):

BRUIJNS Johannes,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9857301 A1 19981217

Application: WO 98IB591 19980420 (PCT/WO IB9800591)

Priority Application: NL 97201786 19970613

Designated States: JP AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Fulltext Word Count: 7236

Fulltext Availability:

Claims

Claim

A computer **graphics rendering** method comprising the steps of
- defining a curved surface patch in terms of a description...

...of

segmentation points and the set of grid points map;
- rendering an image of a **mesh** of flat **triangles**, nodes of the **mesh** having the coordinates of respective points in the set of mapped points;
characterized in that...least no more than any other of the at least two method being selected for generating the triangles.

8 A computer **graphics rendering** device comprising

- a memory for storing a definition of a curved surface patch in terms...

...and the set of grid points map; - rendering means for rendering an image of a **mesh** of flat **triangles**, nodes of the **mesh** having the coordinates of respective points in the set of mapped points;
characterized in that...

21/3,K/26 (Item 18 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00453990

METHOD AND SYSTEM FOR VIEW-DEPENDENT REFINEMENT OF PROGRESSIVE MESHES
PROCEDE ET SYSTEME D'AFFINEMENT PAR VUE DE MAILLES PROGRESSIVES

Patent Applicant/Assignee:
MICROSOFT CORPORATION,

Inventor(s):

HOPPE Hugues H,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9844454 A2 19981008

Application: WO 98US6623 19980402 (PCT/WO US9806623)

Priority Application: US 97826570 19970403

Designated States: CA JP AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Fulltext Word Count: 20549

Fulltext Availability:

Detailed Description

Detailed Description

... THE INVENTION

Rendering complex geometric models at interactive rates is a challenging problem in computer **graphics**. While **rendering** performance is continually improving, significant gains can be obtained by adapting the complexity of a geometric model to the contribution the model makes to a specific **rendered graphical** image. Within traditional modeling systems known in the computer **graphics** art, detailed geometric models are **created** by applying versatile modeling operations (e.g., extrusion, constructive solid geometry, and freeform deformations) to...

...other multi-sided shapes. For efficient display, the resulting geometric models are typically transformed into **polygonal** approximations of geometric

primitives called " **meshes** ."

A mesh has a geometry denoted by a tuple (K, V) where K is a...

...ACM SIGGRAPH'93 Proceedings, pp. 19 Many geometric models in computer graphics are represented using **triangle meshes** .

Geometrically, a **triangle mesh** is a piecewise linear surface with multiple triangular faces joined together at their edges. One common technique for using meshes to display a **graphical** object or image is to **create** several versions of a geometric model at various Levels Of Detail (LOD) using progressive meshes...models for a graphical image containing one or more graphical objects are typically transformed into **polygonal** approximations of geometric primitives called " **meshes** ." A mesh has a geometry denoted by a tuple (K, V) where K is a...

...R' @ R3 is a linear map. One common technique for using meshes to display a **graphical** object is to **create** several versions of a geometric model at various view-independent Levels Of Detail (LOD) using ...and MB . The smooth transition helps eliminate jerky or abrupt transitions called "popping" when the **meshes** are viewed.

Triangle Strips

Many **graphics** systems **create** triangle strip representations of **graphical** images for optimal **rendering** performance. A triangle strip is a sequence of connected triangles with adjacent faces.

FIG. 20...almost any underlying geometric model used to display a

graphical image. The resulting adaptively refined mesh that requires fewer polygons for a desired level of approximation than other refinement schemes known in the art. As...

...mesh that are not visible by a viewer under selected view conditions which allows the graphical image to be rendered using fewer computer resources. Adaptively refined meshes can be also used to for progressive transmission...

21/3,K/27 (Item 19 from file: 349)
DIALOG(R) File 349:PCT FULLTEXT
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00453981

METHOD AND SYSTEM FOR ADAPTIVE REFINEMENT OF PROGRESSIVE MESHES
PROCEDE ET SYSTEME POUR L'AFFINEMENT ADAPTATIF DE RESEAUX QUADRILLES
PROGRESSIFS

Patent Applicant/Assignee:
MICROSOFT CORPORATION,

Inventor(s):

HOPPE Hugues H,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9844445 A2 19981008

Application: WO 98US6692 19980402 (PCT/WO US9806692)

Priority Application: US 97826573 19970403

Designated States: CA JP AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT
SE

Publication Language: English

Fulltext Word Count: 18144

Fulltext Availability:

Detailed Description

Detailed Description

... THE INVENTION

Rendering complex geometric models at interactive rates is a challenging problem in computer graphics . While rendering performance is continually improving, significant gains can be obtained by adapting the complexity of a geometric model to the contribution the model makes to a specific rendered graphical image. Within traditional modeling systems known in the computer graphics art, detailed geometric models are created by applying versatile modeling operations (e.g., extrusion, constructive solid geometry, and freeform deformations) to...

...other mullet-sided shapes. For efficient display, the resulting geometric models are typically transformed into polygonal approximations of geometric primitives called " meshes ."

A mesh has a geometry denoted by a tuple (K, V) where K is a...

...ACM SIGGRAPH'93 Proceedings, pp. 19 Many geometric models in computer graphics are represented using triangle meshes .

Geometrically, a triangle mesh is a piecewise linear surface with multiple triangular faces joined together at their edges. One common technique for using meshes to display a graphical object or image is to create several versions of a geometric model at various Levels Of Detail (LOD) using progressive meshes...models for a graphical image containing one or more graphical objects are typically transformed into

polygonal approximations of geometric primitives called " **meshes** ." A mesh has a geometry denoted by a tuple (K, V) where K is a...

...R 3 is a linear map. One common technique for using meshes to display a **graphical** object is to **create** several versions of a geometric model at various view-independent Levels Of Detail (LOD) using...and M' . The smooth transition helps eliminate jerky or abrupt transitions called "popping" when the **meshes** are viewed.

Triangle Strips

Many **graphics** systems **create** triangle strip representations of **graphical** images for optimal **rendering** performance. A triangle strip is a sequence of connected triangles with adjacent faces. FIG. 20... almost any underlying geometric model used to display a **graphical** image. The resulting adaptively refined **mesh** that requires fewer **polygons** for a desired level of approximation than other refinement schemes known in the art. As...

...mesh that are not visible by a viewer under selected view conditions which allows the **graphical** image to be **rendered** using fewer computer resources. Adaptively refined meshes can be also used to for progressive transmission...

21/3,K/28 (Item 20 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00437051

2-D MESH GEOMETRY AND MOTION VECTOR COMPRESSION

GEOMETRIE DE TRAME BIDIMENSIONNELLE ET COMPRESSION DU VECTEUR D'ANIMATION

Patent Applicant/Assignee:

SHARP KABUSHIKI KAISHA,

Inventor(s):

VAN BEEK Petrus J L,

TEKALP Ahmet Murat,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9827515 A1 19980625

Application: WO 97JP4607 19971215 (PCT/WO JP9704607)

Priority Application: US 9633011 19961216; US 97942313 19971001

Designated States: CN JP KR SG AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL
PT SE

Publication Language: English

Fulltext Word Count: 11462

Fulltext Availability:

Detailed Description

Detailed Description

... node points, from which a continuous, piece-wise affine motion field can be reconstructed.

3D **polygon** **meshes** have long been used for efficient 3D object geometry

modeling and **rendering** in computer **graphics** . Equations similar to parametric mappings used in mesh-based motion modeling ...in 3D graphics to perform texture mapping, a popular procedure to render natural images on **polygon** **meshes** describing graphic objects for photo-realistic synthesized images. Texture mapping in 3D graphics is realized...

...a pixel position on a 2D image)

6

to every 3D node point on the **polygonal mesh**. Thus, each **polygonal surface element** on the 3D **mesh** is associated with a patch of the 2D image, which is then rendered on the **polygon mesh** subject to proper warping transformation. An animation may be created by rendering the same image...

21/3,K/29 (Item 21 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT
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00429954 **Image available**

PROCESS CONTROL

COMMANDE DE PROCEDE

Patent Applicant/Assignee:

CYBERLIFE TECHNOLOGY LIMITED,
GRAND Stephen Lewis,

Inventor(s):

GRAND Stephen Lewis,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9820418 A1 19980514

Application: WO 96GB2703 19961105 (PCT/WO GB9602703)

Priority Application: WO 96GB2703 19961105

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES
FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW
MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN KE LS MW
SD SZ UG AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE IT
LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

Publication Language: English

Fulltext Word Count: 20197

Fulltext Availability:

Detailed Description

Detailed Description

... Often the system will be used in both modes.

The output from the system is **rendered**, textured 3D **graphics** and **stereo sound**. Each object in the simulation can have its own 3D **polygon mesh**, and thus complex objects can be constructed from several articulated or otherwise connected parts, each...three-dimensional graphics. Each cell can optionally contain graphical and geographical information, and thus be **rendered** to the screen. The **graphical** information is in the form of a textured **polygon mesh** (possibly two separate **meshes**, if the object needs to be visible from both inside and outside).

Each polygon may...

21/3,K/30 (Item 22 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT
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00306530

INTEGRATING TEXTURE MEMORY AND INTERPOLATION LOGIC
PROCEDE D'INTEGRATION DE MEMOIRE DE TEXTURES ET DE LOGIQUE D'INTERPOLATION
Patent Applicant/Assignee:

SILICON GRAPHICS INC,

Inventor(s):

HANNAH Marc R,

NAGY Michael B,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9524682 A1 19950914

Application: WO 95US2853 19950307 (PCT/WO US9502853)

Priority Application: US 94206959 19940307

Designated States: JP KR AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Fulltext Word Count: 6358

Fulltext Availability:

Detailed Description

Detailed Description

... invention may be practiced is shown as 100,

System 100 can include any computer controlled graphics systems

for generating complex or three-dimensional images, such as the

IRISTM family of computers manufactured by Silicon...scan

conversion subsystem then generates pixel data based on the

primitives (e.g., points, lines, polygons , and meshes) from the

geometry subsystem. The pixel data is sent to the raster

subsystem, whereupon z...

21/3,K/31 (Item 23 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00163870

REDUCING STEREOLITHOGRAPHIC PART DISTORTION THROUGH ISOLATION OF STRESS

REDUCTION DE LA DISTORSION STEREOLITHOGRAPHIQUE DE PIECES PAR ISOLATION DES
CONTRAINTEES

Patent Applicant/Assignee:

3D SYSTEMS INC,

Inventor(s):

SMALLEY Dennis Rollette,

Patent and Priority Information (Country, Number, Date):

Patent: WO 8910255 A1 19891102

Application: WO 89US1560 19890417 (PCT/WO US8901560)

Priority Application: US 8815 19880418

Designated States: JP KR

Publication Language: English

Fulltext Word Count: 41237

Fulltext Availability:

Claims

Claim

... with the boundaries on the previous layer.

The present invention harnesses the principles of
computer generated graphics in combination with
stereolithography, i.e., the application of lithographic
techniques to the pr.oduction...include photographic.reproduction,
xerography, and

microlithography, as is used in the production of
microelectronics. Computer generated graphics displayed
on a plotter or a cathode ray tube are also forms of
lithography, where...

...technologies.

A prime object of the present invention is to harness the principles of computer - generated graphics,, combined with UV curable plastic and the like, to simultaneously execute CAD and CAM,, and...One form,, as previously indicated consists of representing the surface of an object as a mesh of triangles (PHIGS). These triangles completely form the inner and outer surfaces of the object* This CAD representation also includes...

21/3,K/32 (Item 24 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00163864

METHODS FOR CURING PARTIALLY POLYMERIZED PARTS
PROCEDE DE DURCISSEMENT DE PIECES PARTIELLEMENT POLYMERISEES

Patent Applicant/Assignee:

3D SYSTEMS INC,

Inventor(s):

MODREK Borzo,

PARKER Brent,

SPENCE Stuart Thomas,

Patent and Priority Information (Country, Number, Date):

Patent: WO 8910249 A1 19891102

Application: WO 89US1562 19890417 (PCT/WO US8901562)

Priority Application: US 8816 19880418; US 88429 19881108

Designated States: JP KR

Publication Language: English

Fulltext Word Count: 62732

Fulltext Availability:

Claims

Claim

... reproduction, xerography, and microlithography, as is used in the production of microelec
tronics; Computer generated graphics displayed on a plotter or a cathode ray tube are also forms of litho...

...of the technology relating to the present invention is to harness the principles of computer generated graphics , combined with in curable plastic and the like, to simultaneously execute CAD and CAM, ...as previously indicated, consists of representing the surface of an object as a mesh of triangles (PHIGS). These triangles completely form. the inner and outer surfaces of the object,,, This CAD representation also includes...

?

23/3,K/1 (Item 1 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00767723 **Image available**

METHOD AND APPARATUS FOR THE GENERATION OF COMPUTER GRAPHIC REPRESENTATIONS
OF INDIVIDUALS

PROCEDE ET APPAREIL PERMETTANT DE GENERER DES REPRESENTATIONS GRAPHIQUES
D'INDIVIDUS PAR ORDINATEUR

Patent Applicant/Inventor:

CRAMPTON Stephen James, 9 Broadfields, Goffs Oak, Waltham Cross, Herts
EN7 5JU, GB, GB (Residence), GB (Nationality)

Legal Representative:

BERESFORD Keith Denis Lewis, Beresford & Co., 2-5 Warwick Court, High
Holborn, London WC1R 5DJ, GB

Patent and Priority Information (Country, Number, Date):

Patent: WO 200101354 A1 20010104 (WO 0101354)

Application: WO 2000GB2458 20000626 (PCT/WO GB0002458)

Priority Application: GB 9914823 19990624

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ
DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ
LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG
SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 45335

Fulltext Availability:

Claims

Claim

amendments.

METHOD AND APPARATUS FOR THE GENERATION
OF COMPUTER GRAPHIC REPRESENTATIONS OF INDIVIDUALS
FIELD OF THE INVENTION

The present invention concerns methods and apparatus
for generating computer graphical representations of
individuals. In particular, the present invention
concerns the generation of texture rendered wire...

...means by which
computer models of individuals can be generated which may
be used to generate computer graphical representations of
individuals in different poses.

Embodiments of the present invention provide means
by which animated sequences of computer graphical images
can be generated which are indicative of the movement of
an individual between a number of different poses...self-test program;
Figure 16 is a flow diagram illustrating the steps
involved in the generation of a computer graphical
representation of an individual in accordance with the
first embodiment of the present invention;
Figure...

...Figure 18 is a flow diagram of the steps involved in
obtaining image data for generating a computer graphical

, representation using the booth of Figure 2;
Figure 19 is a graph illustrating the timing...

...an individual in
profile;

Figure 26 is a representation of an outline
generated from a **silhouette** corresponding to the example
of Figure 20 on which a number of landmark points are...

...stored in memory;

Figure 36 is a representation of the data structure
for a generic **polygon** **wire mesh** for a generic model
avatar;

Figure 37 is an illustrative representation of a
polygonal **wire mesh** of a generic model avatar;

Figure 38 is a pair of illustrations showing the
deformation...has been described arranged to utilise the
avatar data generated by the booth I to **generate** computer
graphical representations of individuals in any of a
plurality of poses. In this embodiment the avatar...which only a single
image

is obtained of the user in each pose with a **silhouette** of
the user being calculated from a single image. Methods of
generating silhouettes from a...function transforming a single generic
model of an avatar from outline data calculated from a
silhouette, it will be appreciated that any form scanning
means for scanning in data could be...varying
levels of details for use in different applications, Thus
for example avatars having a **polygonal** **mesh** of 2600
polygons could be generated for use in some software with
a **polygonal** **mesh** of 10,000 or 40,000 polygons being used
for other applications, The model. avatar...

?